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January 19, 1995

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JAN 19 1995

FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF SECRETARY

William F. Caton
Acting Secretary
Federal Communications Commission
1919 M Street, N.W., Room 222
Washington, D.C. 20554

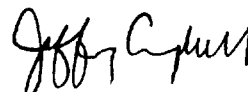
Re: ET Docket No. 93-7

Dear Mr. Caton:

On January 19, 1995, representatives of Compaq Computer Corporation met with Merrill Spiegel of Chairman Hundt's office to discuss the Cable Compatibility proceeding, ET Docket No. 93-7. Compaq was represented by Joseph Tasker, Jr., Director, Federal Regulatory Affairs, Jonathan Jacob Nadler of this firm, and the undersigned. The issues discussed at this meeting have been previously placed in the public record in Compaq's pleadings and the attached handout was distributed.

The original and one copy of this letter is enclosed for filing in accordance with Section 1.1206(a) of the Commission's rules. If you have any questions, please contact the undersigned.

Sincerely,



Jeffrey A. Campbell

Enclosure

cc: Merrill Spiegel

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PRESENTATION OF COMPAQ COMPUTER CORPORATION

ET DOCKET NO. 93-7

RECEIVED
JAN 19 1995
FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF SECRETARY

THE COMMISSION SHOULD REQUIRE THE FULL UNBUNDLING OF THE CABLE SET-BACK BOX

January 19, 1995

I. Compaq Computer Corporation: A Market Innovator

- Compaq is one of the largest manufacturer of personal computers and personal computer systems in the world today. With 1993 after-tax profits of \$462 million, Compaq is now the most profitable computer company in the United States.
- Compaq's historic focus has been in the PC market, where its innovative and affordable products have made it a recognized leader. Today, Compaq's reach extends from home computers to business PCs, from mobile computing to PC networks.
- Looking to the future, Compaq intends to be a major participant in the information technology industry by becoming the leading provider of "platforms" -- ranging from consumer PCs to enterprise client/server systems -- that provide network access, information processing, and storage capability. Compaq also anticipates serving its customers by forging alliances with providers of information transport "conduits" and information content.

II. Compaq's Vision: The Emerging National Information Infrastructure

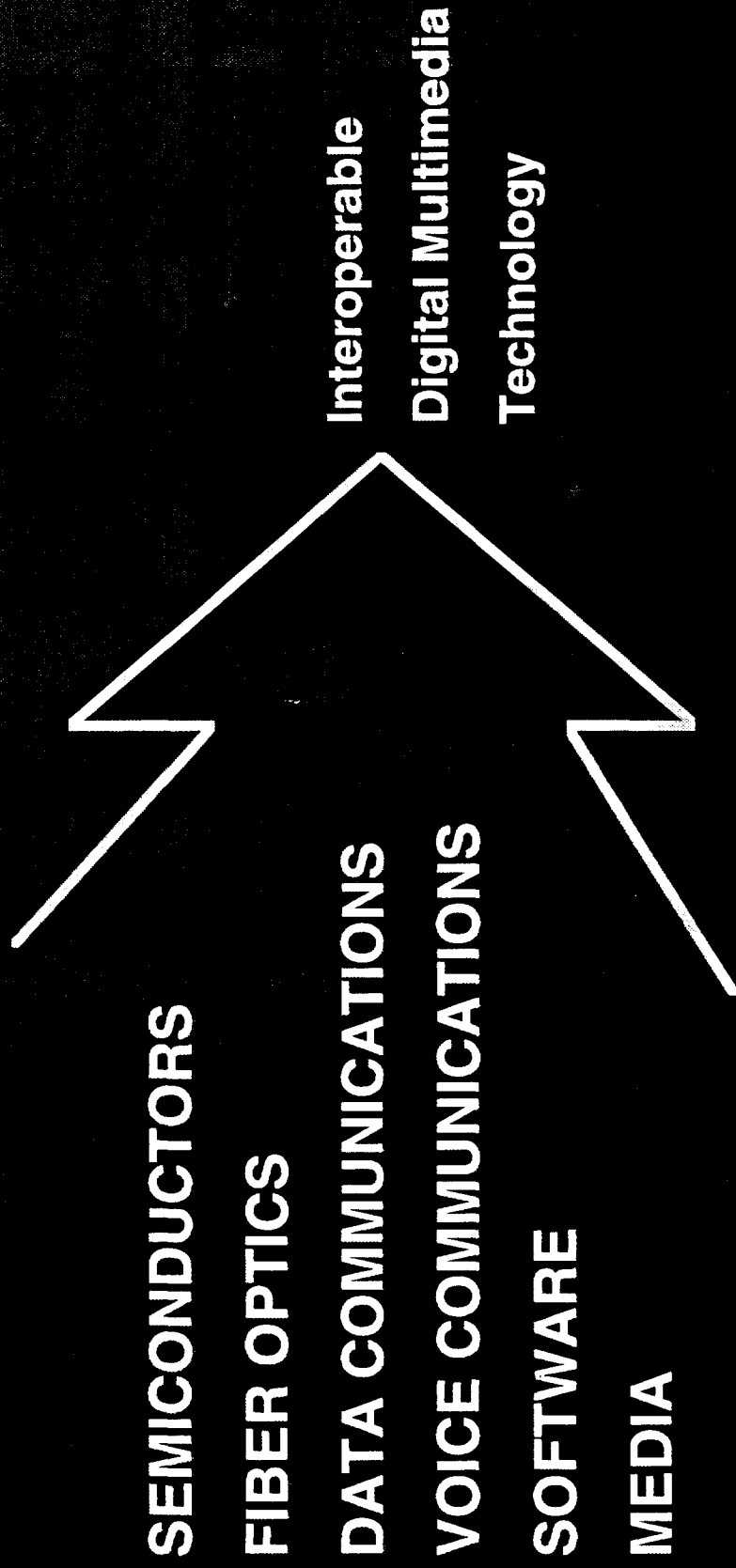
- In order to promote the growth of the National Information Infrastructure, information conduits -- including cable systems and telephone networks -- will have to become more open and interoperable. Ultimately these disparate services will form an interoperable federation of architectures, interfaces, and protocols that will constitute the backbone the NII.
- The personal computer will play a pivotal role in the NII.
 - Over time, more intelligence will move from the conduits to the platforms.
 - The PC will play a key role in this transformation; it is a multi-functional platform that is well suited to a wide range of business, educational, and entertainment uses.
 - * The first step will be the merger of the PC and the television. Indeed, many PCs currently are equipped with "tuner boards" that enable the PC to act as a TV monitor.
 - * PC-TV is just the beginning. Ultimately, the PC will integrate a wide range of telecommunications, information processing, and display functions.
 - At the same time, competition and technological advances will force prices down. As a result, by the year 2000 as many as 75 percent of all households may have some type of PC.

III. The Cable Compatibility Proceeding is an Important Step in the Process of Fostering the Development of the NII

- In order for the NII to develop, functionality must be allowed to migrate from non-competitive conduits (including cable systems) into competitively provided equipment.
- Allowing cable systems to bundle security and non-security functions in the Decoder Module would be inconsistent with this goal.
 - Consumers currently are obligated to obtain equipment that provides the security function from the cable systems.
 - Allowing cable systems to bundle this functionality with non-security functions would foreclose competition from independent manufacturers.
 - The ultimate result would be to allow cable system operators to bundle non-security functionality into their networks.
- There are several acceptable ways to unbundle the Decoder Module from non-security-related in-home equipment.
 - The simplest solution is to require the physical separation of the Decoder Module from other in-home cable equipment providing non-security functions.
 - An alternative solution is to allow cable systems to bundle security-related and non-security-related functions into a single box, provided the cable system is required to make available a "security only" Decoder Module.
 - A third possibility is to require cable systems to license their security technology to independent equipment manufacturers, thereby allowing both cable systems and independent manufacturers to offer a security/non-security Decoder Module.

- Resolution of this issue will set an important precedent.
 - In the short term, unbundling security and non-security functions will allow functionality to migrate from the monopoly cable networks to competitively provided set-back boxes, televisions, and VCRs. This will become increasingly important as such functionality becomes more advanced.
 - Such unbundling also is a necessary precondition to allowing functionality to migrate from the cable conduits to PCs or other "smart platforms" in response to technical developments and market demand.
 - In addition, Unbundling the set-back box is an important step towards the adoption of a comprehensive "Part 68 for Cable," which will ensure the ability of end-users to connect competitively provided equipment to the cable network.
 - Finally, the Cable Compatibility proceeding is closely related to the Video Dialtone proceeding. The Commission's Unbundling Rule, 47 C.F.R. § 64.702(e), requires carriers providing video dialtone service to unbundle the provision of customer premises equipment (including the set-top box) from their basic transport service. The Commission should adopt consistent rules in both proceedings, thereby allowing consumers to have the full benefit of competition in the market for in-home equipment used in conjunction with multi-channel video programming.

Information Industries Converging



New Information Technology Industry Emerging

Solution Spectrum

Content (Data, Voice and Video)	<div> <div>Training</div> <div>Corporate Libraries</div> </div>									
	<div> <div>Remote Classrooms</div> <div>CD ROM Magazines</div> </div>									
Conduit (Infrastructure and Services)	<div> <div>Home Shopping</div> <div>Interactive Games</div> <div>Movies</div> <div>Conventional TV Programs</div> </div>									
	<div> <div>Fiber</div> <div>ATM</div> </div>									
Platform (Hardware and Systems Software)	<div> <div>ISDN</div> <div>Switched Digital</div> <div>PCS</div> </div>									
	<div> <div>Copper</div> <div>Cellular</div> <div>POTS</div> </div>									
Comm	<div> <div>Cable</div> </div>									
	<div> <div>FEP</div> <div>PBX</div> <div>MUX</div> <div>Routers</div> <div>HUBs</div> <div>NICs</div> <div>Modems</div> <div>Pagers</div> <div>Set-top box</div> </div>									
Computing	<div> <div>Laptops</div> <div>Notebooks</div> <div>Subnotebooks</div> </div>									
	<div> <div>Main frame</div> <div>Mid range</div> <div>Network Servers</div> <div>PCs & Wkstations</div> <div>PCTV/Smart phone</div> <div>Elec Books</div> <div>Game Machine</div> </div>									

Computer Industry Business Model Changing

Old Computer Industry

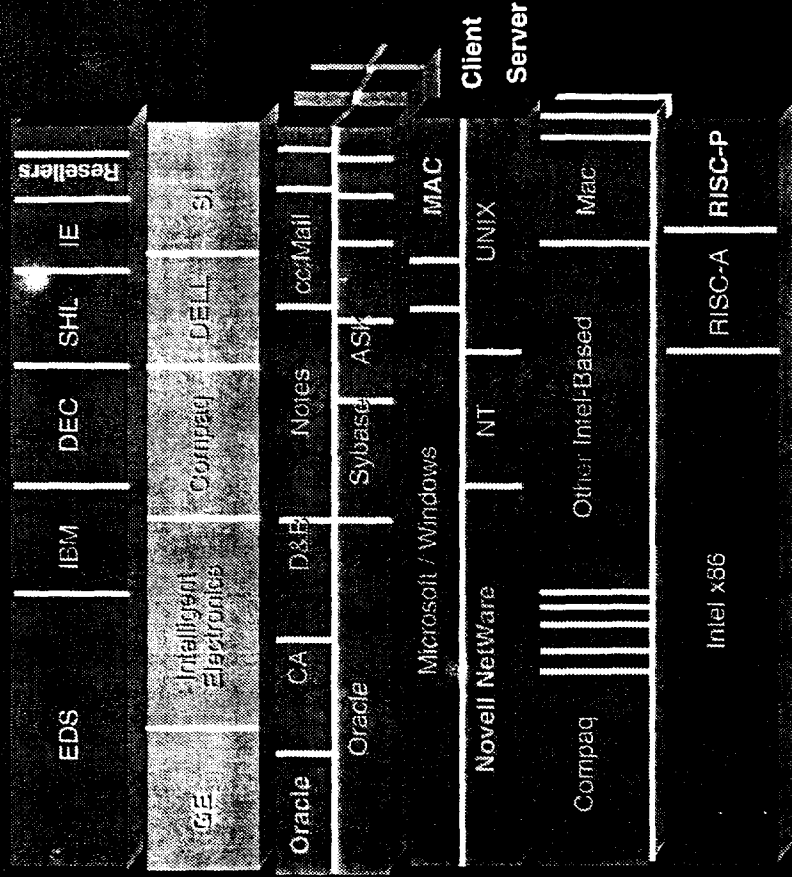
New Computer Industry



Vertical Example



Fully, Integrated Vertical Suppliers

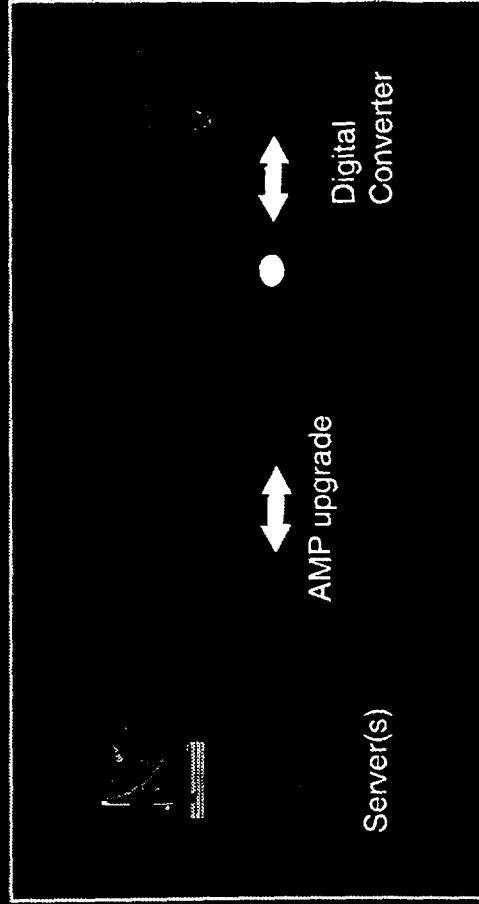


New Heterogeneous, Open, Multiple Supplier Market

Investments to Provide Broadband to the Home

Current Trials

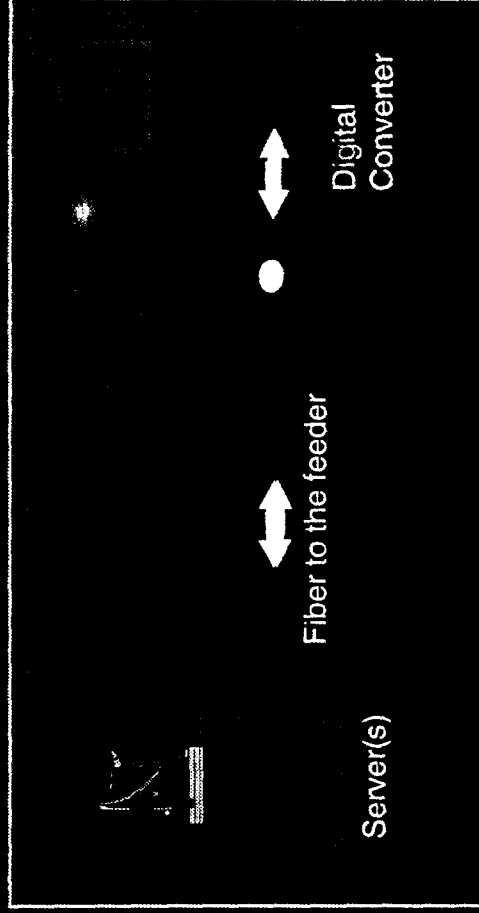
Multiplex Networks
\$500/Household



- * 200 To 500 Channels Shared Across The Entire Cable System
- * 1 Mb/S Compressed Channel
- * Impulse Response

Full-Service Network

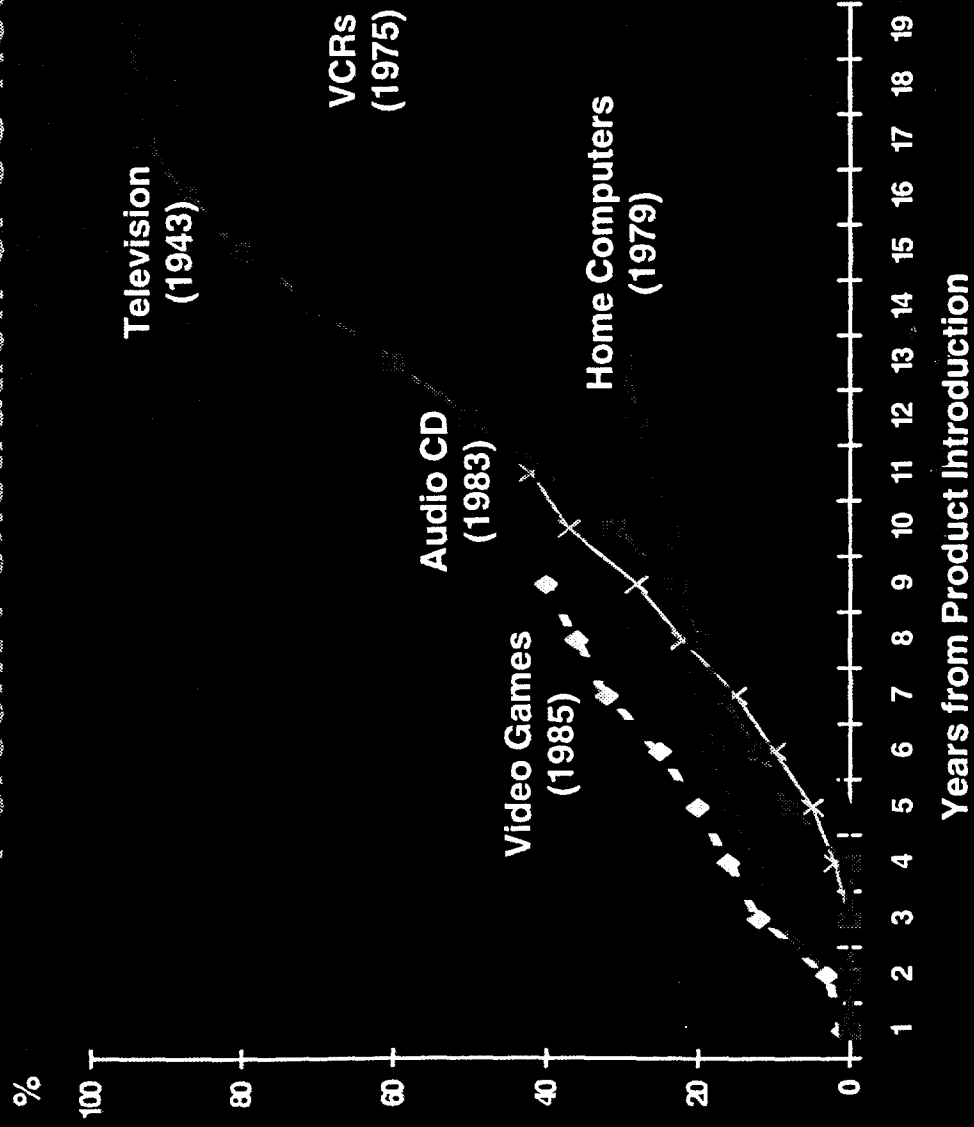
\$1,000 - \$2,000/Household



- * Virtual Video-on-Demand, With Jukebox And 200 To 500 Channels Shared by a Neighborhood of 500 to 2,000 Homes
- * 1 Mb/S Compressed Channel
- * 100-500 Kb/S Response

Consumer PC Opportunity Significant

Percent Penetration of US Households



Factors Driving Growth

- Declining Price Points (<\$500)
- Improving Ease of Ownership
- Growing CD-ROM Installed Base
- Availability of New Applications
- Growing Awareness of NII

PC Feature/Functionality Expanding

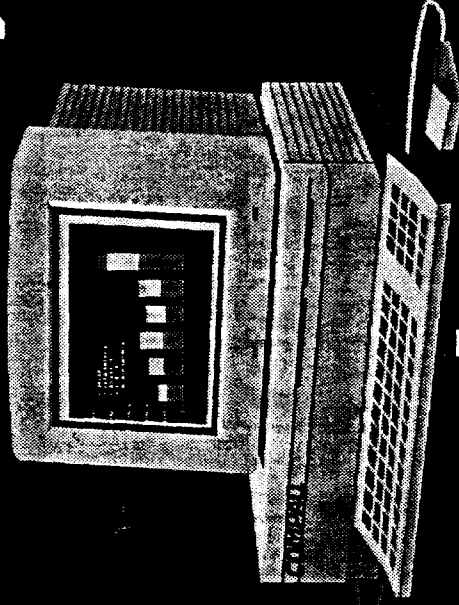
Data/On-line
Communications

Multimedia

Home Office

Groupware

Video &
Teleconferencing



Life Style Computing

- Living Room**
- Large Screen
 - Sound System

- Kitchen**
- Flat Screen
 - Video Conferencing
 - Integrated Telephone/Messaging
 - Touch Input
 - Links for Electronic Commerce

- Study**
- Reference
 - Home Finances
 - Home Office

- Kid's Room**
- Multimedia
 - Edutainment Peripherals

- Home Mobile**
- Wireless Connections
 - Voice Recognition
 - How-to Applications
 - Gardening
 - Building a Deck

Applications: Health Care

- * Improves the Patient/Clinician Relationship**
 - Patient Better Informed**
 - Extends Quality of Service**
- * Allowing Industry to Handle Change and Cost Pressures**
- * Applications:**
 - On-Line Question Response**
 - Patient Journals**
 - Clinician Journals**
 - Electronic Medical Record**
 - Telemedicine**

Applications: Business

- * Key to Competitive Advantage**
- * Dramatically Reduces Intermediation**
- * Allows Rapid Formation and Disintegration of Teams**
- * Flattens the Hierarchy**
- * Telecommuting Has the Potential to Allow Better Balance Between Business and Family Life**
- * Rewards High Quality, Low Cost Producers**

Applications: Government

- * Reduces Cost of Dispensing and Administering Services**
- * Provides Access to Valuable Information the Government Collects**
- * Allows More Direct Involvement and Input by the Electorate**

Applications: Education

- * Enables New and Exciting Models of Education**
 - Enables Life Long Learning**
 - Classroom Without Walls**
 - Access to Interest Groups or Experts**
- * Enriches Both the Teacher's and the Student's Experience**
 - Teacher As Facilitator**

Applications: Entertainment

* Future

- Networked Games
- Full Motion Feeds of Customized Video
- Virtual Reality

* Today/Tomorrow

- Networked Narrow-Band Communication
 - Messaging
 - Chat Lines
 - Video Conferencing
- Interactive Games
- CD-ROM Entertainment

Final Thoughts

- * **Let the Market Lead**
 - Critical to Assuring Appropriate Development of the Technology
 - Market Approach Will Allow Growth Based on Real Needs of Today and Innovation for Tomorrow
- * **Don't Underestimate the Population**
- * **The Right Approach to the Future Will Bring Great Rewards**